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Abstract

The present invention is a method of manufacturing a silicon single crystal by Czochralski method without performing Dash Necking method, wherein a temperature variation at a surface of a silicon melt is kept at ± 5 °C or less at least for a period from a point of bringing the tip end of a seed crystal into contact with the silicon melt to a point of shifting to pull the single crystal. Thereby, in a method of growing a silicon single crystal by Czochralski method without using Dash Necking method, a success ratio of growing a single crystal free from dislocation can be increased, at the same time a heavy silicon single crystal having a large diameter in which a diameter of a constant diameter portion is over 200 mm can be grown even in the case of growing a silicon single crystal having a crystal orientation of $\langle 110 \rangle$